REMARKS

The rejections presented in the Office Action dated June 28, 2004 have been considered. New claims 18-23 are added to claim the invention in alternative language. Claims 1-23 remain pending, and reconsideration and allowance of the application are respectfully requested.

The Office Action fails to show that claims 1, 2, 4, 6, 11, 13, and 17 are anticipated under 35 USC §102(e) by US patent number 6,530,036 to Frey, Jr., et al. (hereinafter "Frey"). The rejection is respectfully traversed because the Office Action fails to show that all the limitations of the claims are taught by Frey.

As to claims 1 and 2, it will be appreciated that Frey does not teach memory allocation processing. Frey teaches storage management as in network file systems. Frey uses the term "memory" to refer to storage such as magnetic disks, magnetic tape, and optical media (FIG. 1, col. 1, ll. 40-46). "Memory" as commonly used in the art refers to the RAM memory managed by the operating system, not storage. Thus, Frey does not suggest the claimed method of managing memory.

The Office Action does not show that Frey teaches the limitations of claims 4 and 11 that include a first type-identifier code identifies memory objects used by the operating system and a second type-identifier code identifies memory objects used by the application programs. Frey's col. 10, ll. 17-31 is cited as teaching these limitations. However, there is no apparent reference to type identifiers being used to identify memory objects used by the operating system and memory objects used by application programs. The cited teaching teaches metadata that includes a physical map, level of fault tolerance, object size, and time stamps. Furthermore, the Office Action states that the information of the claim limitations "can be added in the metadata." However, the issue is not whether the claimed information *can* be added; this issue is whether the Office Action has shown that Frey actually has the claimed information in the metadata. The Office Action does not show that Frey includes this information. Thus, claims 4 and 11 are not shown to be anticipated by Frey. Further explanation of specific elements of Frey thought to correspond to the claim limitations is respectfully requested if the rejection is maintained.

The Office Action does not show that Frey teaches the limitations of claims 6 and 13 that include the one of the recovery actions comprising signaling an application program if the address of the memory error is associated with a memory object allocated to the

application program. The Office Action again cites Frey's col. 10, ll. 17-31. As explained above, this section describes information in Frey's metadata. There is no apparent reference to a recovery action being to signal the application program to which the memory object is allocated. Further explanation of specific elements of Frey thought to correspond to the claim limitations is respectfully requested if the rejection is maintained.

The Office Action fails to show that claims 3 and 10 are obvious under 35 USC §103(a) over Frey, Jr. in view of US patent number 6,622,269B1 to Ngo et al. (hereinafter "Ngo"). The rejection is respectfully traversed because the Office Action fails to show that all the limitations are suggested by the references, fails to provide a proper motivation for modifying the teachings of Frey with teachings of Ngo, and fails to show that the combination could be made with a reasonable likelihood of success.

The Office Action does not show that Ngo suggests the limitations of claims 3 and 10 of the type-identifier code being a program counter value from which allocation of memory is requested. The cited col. 6, ll. 9-14 of Ngo says that instructions may be identified by a program counter value that points to a location in memory where the instruction is stored. This in no apparent way suggests the claim limitations of a program counter from which allocation of memory for a memory object is requested being stored in association with the memory object. Ngo's program counter identifies an instruction, not an allocated memory object. Furthermore, no teaching of Ngo is cited as suggesting that the program counter associated with a memory object is used in the selection of a recovery action. Thus, the Office Action fails to show that Ngo suggests the limitations of claims 3 and 10.

The alleged motivation for combining Ngo with Frey is improper. The alleged motivation states that "it would have been obvious ... to have the type-identifier code to be a program counter value from which allocation of memory is requested ... because the program counter value allows for the address of the memory object to be known." This alleged motivation is based on a faulty assumption and is unsupported by any evidence. Thus, the alleged motivation is conclusory and improper.

The faulty assumption is that "the program counter value allows for the address of the memory object to be known." The program counter does not indicate the address of a memory object as contended by the alleged motivation. The program counter indicates an instruction address from which the memory object was allocated.

The Office Action fails to provide any evidence that Frey's system would benefit from use of the program counter, and no evidence is provided to suggest that Ngo's program counter would actually fix any specific shortcomings of Frey. The alleged motivation is conclusory and therefore, improper.

The rejection of claims 3 and 10 over the Frey-Ngo combination should be withdrawn because the Office Action fails to show all the limitations are suggested by the combination, fails to provide a proper motivation for combining the references, and fails to show that the combination could be made with a reasonable likelihood of success.

The Office Action fails to establish that claims 5, 8, 9, 12, 15, and 16 are obvious under 35 USC §103(a) over Frey in view of US patent number 6,701,451B1 to Cohen et al. (hereinafter "Cohen"). The rejection is respectfully traversed because the Office Action fails to show that all the limitations are suggested by the references, fails to provide a proper motivation for modifying the teachings of Frey with teachings of Cohen, and fails to show that the combination could be made with a reasonable likelihood of success.

The Office Action fails to show that Cohen suggests the limitations of claims 5 and 12 of using the type of the memory object to determine whether to disregard an error. The Office Action cites Cohen's Abstract. However, Cohen suggests using error description information to determine whether or not to repair or ignore an error. This is clearly not suggestive of the claim limitations.

The alleged motivation for combining Cohen's writing of error information with Frey's metadata indicating a level of fault tolerance is conclusory and improper. The alleged motivation states that "it would have been obvious ... to have one of the recovery actions comprise disregarding the error ... because disregarding an error allows the computing system to remain operational." The alleged motivation relies on Cohen's teaching that not every data error can be repaired. However, this teaching of Cohen apparently contradicts the alleged reason for the combination. The asserted reason is that disregarding an error would allow the computing system to remain operational. However, if an error is so severe that repair could result in more serious errors (Cohen, col. 1, ll. 30-35), then allowing the computer system to remain operational would seemingly risk further corruption of data. Thus, Cohen appears to contradict the claim limitations and the reasons cited in the Office Action, and the alleged motivation is improper.

The Office Action fails to show that the Frey-Cohen suggests the limitations of claims 8 and 15 that include one of the recovery actions comprising logging information that describes the memory error. As with the rejection of claim 5, the Office Action does not show that any particular type of recovery action is based on the type associated with the memory object. Furthermore, the cited section of Cohen appears to write error description information without regard to the type of the memory object and other alternative actions.

The Office Action fails to provide a proper motivation for making the Frey-Cohen combination to apply to the limitations of claims 8 and 15. The alleged motivation states that "it would have been obvious ... to have one of the recovery actions comprises logging information that describes the memory error ... because logging error information allows the proper recovery from the error to occur. This alleged motivation is conclusory and improper. For example, no evidence is provided to show that Frey's handling of faults is deficient or lacks recovery capabilities. Thus, the allegation that Cohen's writing of error information would benefit Frey is conclusory, and the motivation is improper.

The Office Action fails to show that the Frey-Cohen suggests the limitations of claims 9 and 16 that include an operating system managing resources of the data processing system for use by application programs executing on the data processing system, and a first type-identifier code that identifies memory objects of a first type used by the operating system, a second type-identifier code that identifies memory objects of a second type used by the operating system, a third type-identifier code that identifies memory objects used by the application programs, and for errors in memory objects associated with the second type-identifier code, the one of the recovery actions logs information that describes the memory error.

As explained above in regards to claims 4 and 11, the Office Action fails to show that Frey teaches or suggest types of memory objects indicating whether the objects are used by the operating system or used by an application. Furthermore, as explained above for claims 8 and 15, the Office Action fails to show that the Frey-Cohen combination suggests the logging of error messages depending on the type of the memory object. Thus, the Office Action fails to show that the Frey-Cohen combination suggests the combined limitations as present in claims 9 and 16. Also, the alleged motivation for making the Frey-Cohen combination for the limitations of claims 9 and 16 is improper for the reasons set forth above.

The rejection of claims 5, 8, 9, 12, 15, and 16 over the Frey-Cohen combination should be withdrawn because the Office Action fails to show all the limitations are suggested

by the combination, fails to provide a proper motivation for combining the references, and fails to show that the combination could be made with a reasonable likelihood of success.

The Office Action fails to show that claims 7 and 14 are obvious under 35 USC §103(a) over Frey in view of US patent number 6,012,157A to Lu (hereinafter, "Lu"). The rejection is respectfully traversed because the Office Action fails to show that all the limitations are suggested by the references, fails to provide a proper motivation for modifying the teachings of Frey with teachings of Lu, and fails to show that the combination could be made with a reasonable likelihood of success.

The Office Action fails to show that the Frey-Lu combination suggests the limitations of claims 7 and 14 that include one of the recovery actions comprising halting the operating system. The cited teaching of Lu (col. 1, ll. 28-31) suggests stopping the operating system from loading, which is not suggestive of halting the operating system. In other words, Lu's teaching does not allow the operating system to progress to where the operating system is executing and can be halted. Furthermore, Lu's teaching stops the operating system from loading without regard to any type associated with allocated memory objects. This is because this teaching of Lu does not allow the system to get to the point where any memory objects are allocated. Thus, the Office Action fails to show that the limitations of claims 7 and 14 suggested by the Frey-Lu combination.

The Office Action fails to provide a proper motivation for making the Frey-Lu combination. The alleged motivation states "that it would have been obvious .... to have one of the recovery actions comprises halting the operating system ... because defects in memory causes the memory contents to be non-operational." This alleged motivation is conclusory and improper. For example, no evidence is provided to show that Frey's handling of faults would cause a system to lose important data or computer functions. Thus, the allegation that Lu's stopping the loading of the operating system would benefit Frey is conclusory, and the motivation is improper.

The rejection of claims 7 and 14 over the Frey-Lu combination should be withdrawn because the Office Action fails to show all the limitations are suggested by the combination, fails to provide a proper motivation for combining the references, and fails to show that the combination could be made with a reasonable likelihood of success.

Withdrawal of the rejections and reconsideration of the claims are respectfully requested in view of the remarks set forth above.

Respectfully submitted,

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